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TESIS DOCTORAL

Three Essays on Hospitality Management in Emerging Markets

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Abstract

This dissertation is composed of three essays on the hospitality management practices in the hotel and airline sectors of emerging markets. The three essays address the issues of loyalty programs, environmental innovations, and electronic word of mouth in hospitality management. The first essay analyzes the factors contributing to the popularity of airline and hotel companies' loyalty programs. The results show that factors such as the number of program partners, the number of redemption options, and the threshold to elite status can positively contribute to loyalty programs' popularity, while other factors such as the redemption requirement have a mixed contribution. The second essay examines the impact of environmental innovations on airlines' financial performance and operational efficiency. Environmental innovations are classified into technology-based and process-based environmental innovations. It is found that both types of innovations can positively influence airlines' revenue but only process-based environmental innovations have positive impacts on airlines' profit. In relation to operational efficiency, we found that only process-based environmental innovations exert a positive impact on the aircraft occupancy rate of airlines. The third essay is focused on the electronic word of mouth (eWOM) in the luxury hotel sector of China. The two main online travel channels have been analyzed: online travel agency (OTA) and online meta-search website (OMS). We argue that OTA has a stronger incentive to boost hotels' eWOM than OMS, as our results show that, for the same hotel, OTA gives significantly better eWOM than OMS. In addition, a positive interactive effect has been found between the channel and the hotel's origins. These essays provide some original perspectives and research questions on hospitality management in emerging markets with grounded analyses, updated results, and relevant implications for both researchers and practitioners in this field.

Resumen

Esta tesis está compuesta por tres artículos en *hospitality management* enfocados en los sectores de hoteles y aerolíneas de los mercados emergentes. Los tres artículos abordan los temas de programas de fidelización, innovaciones medioambientales, y boca a boca electrónico, respectivamente. El primer artículo analiza los factores que contribuyen a la popularidad de los programas de fidelización de las compañías aéreas y hoteleras. Los resultados demuestran que los factores como el número de *partners* del programa, el número de opciones de redención, y el umbral de socios élite están positivamente relacionados con la popularidad de los programas, mientras otros factores como el requerimiento de redención ofrecen unas contribuciones mixtas. El segundo artículo estudia los impactos que dejan las innovaciones medioambientales de las compañías aéreas en sus resultados financieros y eficiencia operacional. Las innovaciones medioambientales se han clasificado en dos tipos: las basadas en tecnología y las basadas en procesos. Los resultados indican que los dos tipos de innovaciones están relacionados positivamente a los ingresos de las compañías aéreas, pero sólo las innovaciones basadas en procesos tienen impactos positivos en los beneficios de las compañías. También se ha encontrado que sólo las innovaciones basadas en procesos afectan positivamente la tasa de ocupación de los vuelos. El tercer artículo se centra en la boca a boca electrónico (eWOM) del sector de hoteles de lujo en China. Se ha analizado los dos principales canales de turismo *online*: agencia de viaje online (OTA) y página web de *meta-search* (OMS). Sostenemos que las OTA tienen mayores incentivos de mejorar el eWOM de los hoteles comparadas con las OMS, ya que los resultados demuestran que, para un mismo hotel, las OTA ofrecen significativamente mejor eWOM que las OMS. Adicionalmente, se ha descubierto una interacción positiva entre el origen del canal y el origen del hotel. Estos artículos proporcionan unas perspectivas y temas de investigación originales en *hospitality management* en el contexto de mercados emergentes con unas análisis sólidas, unos resultados actualizados, y unas implicaciones relevantes tanto para la investigación académica como para la práctica empresarial en este sector.

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Chapter 1

Introduction

The term hospitality is a broad term or a construct, consisting of a diverse group of industries including, but not limited to, travel, lodging, catering, leisure, conventions, and attraction (Ottenbacher et al., 2009). Hospitality is one of the oldest professions and is regarded as a powerful economic activity that touches many aspects of human life. It is an important industry for many national economies, and is recognized as one of the largest industries worldwide (Ottenbacher et al., 2009).

Hospitality is a part of the broad service industry, where service is vital but where the emphasis on service dimensions can be quite different from other service sectors. At the same time, it is changing quite significantly in response to the ever changing demands and expectations of consumers (Crick and Spencer, 2011). The segment of the industry matters too, as there are clear differences in the degree of genuine hospitality offered (Kandampully et al., 2014).

The study of hospitality has been all-encompassing and has included experts from various backgrounds and disciplines drawn from many fields in the social sciences and arts (Ariffin et al., 2011). However, as an academic discipline, Ottenbacher et al. (2009) contended that hospitality was still considered as a relatively new research discipline with no consensus on its definition and concepts although it was claimed to be one of the world's largest industries.

Similarly, Yoo and Weber (2005) mentioned that hospitality is relatively young and still lacks consensus on its scope and exposure as a research field.

Hepple et al. (1990) argued that hospitality consists of four basic characteristics. Firstly, hospitality is a behavior conferred by a host on a guest who is away from home. Secondly, it is interactive in nature and involves personal contact between the provider and receiver. Thirdly, hospitality comprises of a blend of tangible and intangible factors. Finally, the host provides for the guest's security, psychological and physiological comfort. Hospitality involves interactions between a provider and receiver as well as a blend of tangible and intangible factors.

To understand the relationship between hospitality in the social context and as the one practiced in the commercial context, King (1995) proposed a three domains model suggesting that hospitality broadly straddles three overlapping spheres: private, commercial, and social. The private domain is where one shows hospitality in their home to friends and family, whereas the commercial domain represents the transition of hospitality from a cultural and unconditional offering to one where profit, driven by customer satisfaction and repeat visits, plays the predominate role. The social domain explores hospitality through its historical, sociological, and anthropological perspective (Lashley, 2000), emphasizing hospitableness and the use of food, beverage, and accommodation to offer generosity to travelers. This creates what Teng (2011) calls a unique combination of two potentially conflicting phenomena - running a business for profit's sake and demonstrating genuine hospitality. To allow the modern industry to provide hospitality, these definitions need to avoid any necessity for non-payment. Some industry defenders have done this by simply defining "hospitality and hospitality management purely in terms of products and services" (Brotherton and Wood, 2008, p. 39).

As an effort to enhance the validity of studies in hospitality, Ottenbacher et al. (2009) suggested that hospitality scholars should emphasis on specific segments within the hospitality industry (such as hotel and airlines industries) as well as on the diversity within the segments (such as five-star hotels in the hotel industry).

This dissertation aims exactly at extending the research and making theoretical and empirical contributions in some specific segments of the hospitality industry - hotel and airline industries. The focus and domain is the emerging markets, given their growing academic and managerial relevance.

The term emerging market was coined in 1981 by World Bank. Generally speaking, emerging markets are economies that are in a process of rapid development and industrialization, and are offering enormous potential for economic growth (Khanna and Palepu, 2010). Different authorities and organizations qualify emerging markets based on slightly different criteria, the general consensus may include any nation that has been undeveloped in recent times, yet is now in the process of rapid social and economic development (Khanna and Palepu, 2010). Emerging markets are playing an increasingly significant role in the world economy, and are taking an ever expanding share in all sectors of the hospitality industry (Petrick 2011).

Major emerging markets such as China, India and Brazil are expected to become the world's largest economies by 2050. These three countries cover a significant percentage of the world's land area, 30% of the world's population, and boast a combined GDP (by purchasing power parity) of nearly \$30 trillion US dollars (World Bank, 2014).

As mentioned by Khanna and Palepu (2010), a rapidly growing middle class in emerging markets will lead to a huge demand for virtually all types of products and services in the hospitality sector. And it is reasonable to assume that the increase in demand will not be limited to basic goods and services but rather result in greater demand for all segments of the sector. Despite the economic downturn and growth moderation, many major emerging markets such as China are currently undergoing a structural transformation from growth led by exports and investment to growth grounded on domestic consumption (ADB, 2016). Rapid economic growth together with the enormous domestic demand makes these markets increasingly attractive for business activities and academic research (Gupta and Wang, 2009).

Airlines and hotels are some of the most representative sectors of the hospitality industry. These two sectors play an ever important role in global economic and cultural development and exchange. Emerging markets, in particular, are experiencing fast growth and improvement in airlines and hotels (Khanna and Palepu, 2010). According to the data of Airports Council International (ACI, 2015), 10 of the 20 busiest airports of the world by passenger number are from emerging markets. Hotel development is equally remarkable in these markets. In the past decade, more hotels, especially luxury hotels, are built in Asia than anywhere else in the planet (UNWTO, 2015). In China, for instance, the number of star-rated hotels has been growing from only 137 in early 1980s to 12,776 in 2015 (CNTA, 2015a).

However, despite the fast growth on the airline and hotel sectors in emerging markets, the relevant literature is still very scarce (Aubert, 2004; Lynn et al., 2011; Sheth, 2011). This dissertation aims at filling this academic void by providing some relevant and updated research in these sectors of the emerging markets. The dissertation is composed of three essays drawing on the issue from three scarcely studied topics in the context of emerging

markets: loyalty programs of airlines and hotels, environmental innovations in airlines, and a case of electronic word of mouth on luxury hotels in China.

The first essay empirically examines the factors that may contribute to airlines and hotels' loyalty programs' popularity in the context of emerging markets. Factors such as the number of partners, the number of redemption options, the elite status threshold, and the award redemption requirement of the loyalty programs are analyzed. This study adopts a different approach from previous studies and considers each loyalty program to be the unit of analysis and constitutes one of the few program-level studies in the loyalty program management literature.

Few studies have examined the factors contributing to a loyalty program's success in emerging markets. Based on a set of updated data from the major airlines and hotels operating in emerging markets, this study provides a unique perspective and methodology in the assessment of loyalty programs. The results of the study also shed some light on the management of loyalty programs in developed market economies or other industries in the hospitality sector.

The second essay examines the impact of environmental innovations on airlines' profitability and operational efficiency in the context of emerging markets. The airline industry in emerging markets plays an increasingly important role in the global aviation industry and to some extent constitutes the main opportunity for industry growth. As a result, the environmental impacts of the airline industry in emerging markets are gaining increasing academic and managerial relevance.

In this study, environmental innovations are classified into two categories: technology-based innovations and process-based innovations. The former focus more on technological solutions that directly lead to environmental protection, whereas the latter primarily relate to innovations in service processes that help reduce the environmental impact of an airline. We attempt to contribute to environmental innovation literature by examining how environmental innovations influence airline companies' performance along two dimensions: the aggregated level performance, i.e., the overall profitability, and the process level performance, i.e., the operational efficiency in using capacity. As what is likely the first study addressing this issue in emerging economies, this paper makes some academic contributions by raising the issue and providing some grounded analyses.

The third essay takes a specific case of China's luxury hotel sector to address the issue of electronic word of mouth (eWOM). As the most important emerging market and the world's biggest luxury goods consumer, China has been the fastest growing source market in recent years and the world's top spender in international tourism since 2012 (UNWTO, 2015). This study compares the review ratings from the two most important channels of the online travel industry: online travel agencies (OTA) and online meta-search sites (OMS). OTA is the traditional channel through which customers make travel-related purchases and reservations directly, while OMS is a vertical search engine which provides comparisons among all OTA's and the service providers and redirect customers to those websites for actual transactions. Ctrip.com and MaoTuYing.com are respectively the representative website of the two channels analyzed in the study. We empirically examined the ways in which the chosen review channels influence a hotel's eWOM, focusing on the websites' different level of incentive to boost hotels' online ratings given their different revenue generation formulas. In addition, the interactive effect between the channel and the hotel's origins has been highlighted. This study is one of the first in the literature to analyze the incentive issue of the

two online travel channels in China, and can shed some light on the issue of online review channels on eWOM in settings of emerging markets.

The three essays of the dissertation provide original research questions and grounded analyses on some relevant yet little studied issues on hospitality management. Findings as well as methodologies of this dissertation contribute with some insightful theoretical and empirical implications for researchers and practitioners of the hospitality sector in and beyond emerging markets.

Chapter 2

Analyzing the Factors Contributing to the Popularity of Loyalty Programs: Evidence from Emerging Markets¹

Abstract: Using secondary data from multiple sources, this study empirically examines the factors that contribute to the popularity of loyalty programs in the airline and hotel industries in the context of emerging market economies. We find that the number of partners, the number of redemption options, and the threshold for obtaining elite status all positively contribute to a loyalty program's popularity. However, the award redemption requirement has the opposite effects on a program's popularity. Our results show that the redemption requirement of top-level awards negatively affects the program's popularity. Surprisingly, the redemption requirement of entry-level awards positively affects the program's popularity. As one of the few program-level empirical studies, this study contributes new insights to the extant literature on loyalty program management and provides managerial guidelines for practitioners in the hospitality sector.

Key words: loyalty programs, hospitality industry, emerging markets, empirical study

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2.1 Introduction

Loyalty programs, as structured marketing efforts that aim to enhance customers' loyalty by rewarding their repeat purchase behaviors (Gandomi and Zolfaghari, 2013), have become a prevalent practice in the hospitality industry. From different perspectives, the extant literature on loyalty program management has extensively examined the factors that could affect a loyalty program's efficacy, such as increased purchase frequency, decreased customer price sensitivity, customer advocacy or increased wallet share (McCall and Voorhees, 2010). In this study, we examine the factors that contribute to a loyalty program's popularity from a customer's perspective. We believe that a loyalty program's popularity is crucial for its success because, in the long term, positive customer perceptions will reflect a program's commercial success (McCall and Voorhees, 2010).

In terms of research questions and methods, most existing studies on loyalty program management mainly examine how individual factors influence consumer behavior based on the survey data collected from each consumer. The consumer is the unit of analysis in these studies, and their results are derived from the data collected from developed market economies. Unfortunately, without a program-level empirical analysis, how different factors can jointly influence the loyalty program's effectiveness and popularity and how one loyalty program distinguishes itself from others in a competitive marketplace remains unclear. In this study, we attempt to contribute to the extant literature by conducting a program-level empirical analysis that investigates how different factors can jointly influence a loyalty program's popularity. Because of their important market shares (Kumar and Shah, 2004), we choose frequent flyer and frequent guest programs used in the airline and hotel industries, respectively. Frequent flyer programs typically offer award flights, upgrades, and lounge access to incentivize customers to fly with a particular airline or airline alliance. In the hotel

industry, frequent guest programs offer award rooms, upgrades, free breakfast and Internet access as incentives to attract loyal guests. In this study, we are focusing on emerging market economies as our research context because of their practical and theoretical relevance and lack of research in the literature.

From a practical perspective, loyalty program membership in developed economies has reached a stage of maturity. For instance, in the U.S. market, the annual growth rate of loyalty program membership has dropped to single digits (Capizzi and Ferguson, 2005). By contrast, loyalty program membership is still rapidly increasing in emerging market economies. In addition, compared with those from the developed economies, customers from emerging market economies seem to be more attracted by incentives such as loyalty cards and frequent guest programs, which are likely to help them economically in the long run. For instance, according to a large-scale survey, 92% of customers from Asian countries choose to visit a retail store that offers a loyalty program; however, in Europe and US, this ratio is only 72% and 76%, respectively². The rapidly growing market share and the additional benefit of incentivizing customers make loyalty programs in emerging markets a new context that is attracting considerable attention and gaining managerial relevance.

From a theoretical perspective, loyalty programs have traditionally been viewed as a marketing approach to develop brand loyalty. Numerous existing studies in the marketing literature have shown that consumers in emerging market economies present different purchasing behaviors from those of consumers in developed economies. For example, Atsmon et al. (2012) find that consumers in emerging market economies tend to have a much smaller initial choice set than those at the developed economies, but once they are aware of the brand, they are less likely to switch later to a new brand. In addition, they tend to be not

² <http://dazeinfo.com/2013/11/25/loyalty-programs-favored-92-consumers-developing-countries-asia-study/>

very sensitive to the non-cash redemption option offered by the loyalty programs. One study concerning credit card loyalty program shows that approximately 65% of a Chinese credit card's loyalty program members never redeem their rewards, mainly because they are not even aware of the importance of reward redemption (Liu and Brock, 2010). The different consumer behaviors found at emerging market economies imply that some well-established marketing approach in the developed economies, such as loyalty programs, may not function in the same way as it does in emerging market (Zhang et al., 2014). The loyalty programs at emerging markets therefore provide a unique and interesting research context that enables us to contribute new findings.

As no secondary dataset is available, we manually collected publically accessible program-level information from multiple sources and consolidated them into one dataset. With respect to a program's popularity from the perspective of customers, we collected information regarding winners of the Freddie Award over the past 5 years, which is regarded as the "oldest and most prominent" worldwide recognition of frequent flyer and frequent guest reward programs (Belden, 1999). In addition, we performed a broad search for information regarding the details of the loyalty programs that the "major players" in the airline and hotel industries offer in emerging market economies. These major players are defined as those with more than 10% market share in the country in which their headquarters are located.

Our results show that a loyalty program's overall popularity increases with both the number of partners and the number of redemption options. This finding confirms the value of having a broader partner network and reduced transaction costs for a loyalty program's success. In addition, we find that the difficulty of obtaining both entry and top elite status tiers contribute to a loyalty program's overall popularity. This result provides strong evidence that, even in the context of emerging market economies in which consumers are particularly cost-

sensitive, tiers provide them with a sense of social status (Drèze and Nunes, 2009), and an increased threshold for obtaining each tier increases the scarcity and exclusivity of loyalty program membership. Consequently, the existing loyalty program members feel superior, and their satisfaction increases. Surprisingly, our results show that the award redemption requirement creates significantly opposite effects, depending on the type of awards that a consumer aims to redeem. For the entry-level awards, increasing the redemption requirement increases the program's popularity. By contrast, for top-level awards, increasing the redemption requirement decreases the program's popularity. We provide detailed industry-specific explanations for this counter-intuitive result. In addition to the empirical evidence supporting our hypothesis, we also find that a loyalty program's popularity increases with a firm's overall ranking in terms of consumer perceptions. This result confirms the existence of a "halo effect" in the context of loyalty program management.

The rest of the paper is organized as follows. In Section 2.2, we review the existing studies related to the effectiveness and popularity of loyalty programs and present our hypotheses. In Section 2.3, we summarize the data collection process and the analytical methodology used in this study. In Section 2.4, we present all the results. Finally, in Section 2.5, we provide our discussion and conclude the paper.

2.2 Literature Review and Hypothesis Building

2.2.1 Existing Studies on Loyalty Program Management

In the hospitality sector, loyalty programs often refer to reward schemes that are based on consumers' purchase history, and these programs have been regarded as part of a structured marketing approach to develop a higher level of customer retention in profitable segments (Sharp and Sharp, 1997) by providing more value and a better level of satisfaction among

customers (Bolton et al., 2000).

In practice, loyalty programs can take different forms. Smith (2000) proposed a typology that classifies loyalty programs into six categories: point accumulation and redemption, discounts, services, access, information and advice, and community programs. Point accumulation and redemption programs allow customers to receive points when they purchase products or services, and when a certain number of points have been collected, customers can redeem them for rewards. Discount programs provide customers with additional discounts on future purchases from the same firm or partner firms. Service programs extend special treatment to members, such as VIP status, advance check-in, or other exclusive services. Access programs provide customers with access to exclusive events. Information and advice programs define how information or advice is collected to improve customers' experiences. Community programs aim to encourage customers to interact with one another.

The existing literature has extensively investigated how loyalty programs contribute to a firm's financial performance, but it has derived mixed results. Some studies argue that loyalty programs not only generate revenue but also enable companies to learn more about their customers (Kumar and Shah, 2004). For example, firms commonly record and analyze every transaction that member customers make, and they can offer rewards and other products that suit the unique profile of each customer (O'Malley, 1998). Loyalty programs have been empirically found to positively influence customers' purchase behaviors in various sectors (Lewis, 2004; Taylor and Neslin, 2005). By contrast, other studies show that loyalty programs may not be able to generate increased revenue or a better "fit" with customers' needs (Magi, 2003). For example, Dowling and Uncles (1997) argued that a loyalty program is unlikely to fundamentally change customer behaviors in highly competitive markets. Even worse, when all firms are forced to offer loyalty programs, these programs may incur

additional operating costs (due to program administration and liabilities in the form of miles or points) without acquiring a competitive advantage (Dowling and Uncles, 1997). In a related study, Capizzi and Ferguson (2005) showed that creating a distinguishable image is crucial a loyalty program's effectiveness and popularity. They found that the relationship between loyalty programs and revenue becomes insignificant when consumers are unable to perceive the differences among different loyalty programs within the same industry.

In the airline and hotel industries, frequent flyer and frequent guest programs, respectively, have become common practice in an effort to maintain consumers' loyalty (Toh et al., 2008). Although hotel frequent guest programs have been growing rapidly, the hotel industry still lags behind the airline industry in terms of the share of travelers who are members of loyalty programs. In a survey of 287 hotel guests, DeKay et al. (2009) found that 81% of the travelers belonged to a frequent flyer program, while only 62% of them belonged to a hotel frequent guest program. To explain this finding, DeKay et al. (2009) argued that airline miles award tend to be more attractive than hotel points awards because of their high attractiveness, the ease of redemption and the broad partnership network. For example, both airline miles and hotel points can be used for free capacities (seats or rooms). However, because hotel choices tend to be much broader than flight choices, the need for hotel room redemption may not be as high as that for free seat. In addition, compared with flight upgrades, room upgrades for hotels are normally less attractive in terms of the benefit of discomfort reduction, particularly for long flights. Moreover, compared with hotels, airlines often have more code sharing agreements and other types of partners. The findings from DeKay et al. (2009) imply that a loyalty program's partnership and redemption requirements will influence its popularity. However, DeKay et al. (2009) mainly focused on describing each individual customer's choice between the loyalty programs offered in the airline and hotel industries, and they did not provide an empirical measurement of a loyalty program's partnership and

requirement of redemption. In contrast to DeKay et al. (2009), we explicitly incorporate all these factors into the hypothesis and examine how they contribute to a loyalty program's popularity. In addition, we propose a detailed process for measuring these factors.

Overall, most existing studies on the effectiveness and popularity of loyalty programs are conducted via survey at the individual consumer level to examine how each component in a loyalty program can potentially influence consumer behaviors (Kivetz and Simonson, 2002; Lemon and von Wangenheim, 2009; McCall and Voorhees, 2010; Tanford, 2013). To the best of our knowledge, none of these existing studies makes a firm-level comparison across multiple loyalty programs or examines how one loyalty program is different from another. In addition, the results are based on the data collected from U.S. or European airlines or hotels, thus overlooking these industries in emerging market economies.

2.2.2 Loyalty Program Management in Emerging Market Economies

The term emerging market or economy can be broadly defined as a country noted for its increasing stability, infrastructure, wealth and other positive features, although not to the same extent as markets in the developed world (Khanna and Palepu, 2010). Jagdish (2011) further identifies five key characteristics (market heterogeneity, sociopolitical governance, unbranded competition, inadequate infrastructure, and chronic shortage of resources) that distinguish emerging market economies from developed market economies.

Despite the lack of a standard definition, there are generally three aspects of a country's economy that are often used to determine whether it can be classified as an emerging market economy (Arnold and Quelch, 1998). The first characteristic is the country's absolute level of economic development, normally measured by the average GDP per capita, or the relative

balance of industrial/commercial and agricultural activity. This aspect overlaps with other categorizations, such as developing countries or less-developed countries. The second aspect of a country's economy is its pace of economic growth, which is usually measured by the GDP growth rate. The third aspect is the system and structure of market governance as well as the degree of market freedom; if the country is in the process of economic liberalization from a planned economy, it is often referred to as a "transitional economy." In our study, emerging market or economy refers to countries that satisfy any of these three criteria.

Recent studies from different streams of literature have found that findings based on Western consumers cannot necessarily predict the behaviors and preferences of consumers in emerging market economies. For example, in a qualitative study on customer loyalty for multinational companies in emerging markets, Kumar et al. (2013) interviewed managers of multinational companies from Europe, the U.S., Canada, Asia, and Australia. They found that creating a profitable and loyal customer base in emerging markets requires a different set of "success factors" from those in developed economies. In particular, Sheth (2011) identified five key characteristics (market heterogeneity, socio-political governance, unbranded competition, inadequate infrastructure, and chronic shortage of resources) that distinguish emerging market economies from developed market economies.

With respect to loyalty programs, one recent comparative study of more than 2000 Chinese and Dutch consumers in the banking and supermarket industries found that loyalty intentions are sensitive to cultural backgrounds (Zhang et al., 2014). Surprisingly, they found that Chinese consumers generally demonstrate higher loyalty intentions than Dutch consumers (Zhang et al., 2014). However, in another study conducted in the tourism industry, Legohérel et al. (2012) compared travelers from Asia and Western countries in terms of their attitudes towards variety seeking. They showed that customers with a higher tendency for variety

seeking are less loyal, and no significant difference in variety seeking was found between Asian and Western travelers. These mixed findings provide a new perspective regarding the use of data in the context of emerging market economies: on the one hand, emerging market economies provide a new setting in which to reconsider some key assumptions developed from developed market economies; on the other hand, they may provide relevant justifications to generalize the results derived from developed market economies.

2.2.3 Hypotheses Building

A growing number of firms have loyalty programs through which they partner with firms in other industries that have overlapping or non-overlapping product or service offerings. Through these cooperative relationships, firms seek to exchange resources for mutual benefit via loyalty programs, such as greater product value, improved market reputation and increased access to new markets and customers (Bucklin and Sengupta, 1993).

From the perspective of loyalty program members, a broader network of partners enables them to obtain access to and benefit from the programs of all participating companies by accumulating “points” or “miles” from each partner firm. A broader network will also shorten the time required for tier advancement (Tanford, 2013). In addition, due to the increased opportunity to earn points or miles, consumers tend to get more involved in the loyalty program, which, in turn, increases its perceived value (McCall and Voorhees, 2010).

In sum, we posit the following hypothesis regarding the relationship between the number of partners in a loyalty program and the program’s overall popularity.

Hypothesis 1: A loyalty program’s popularity is positively related to the number of partners.

Prior research has found that the reward that a customer expects has a significant impact on the loyalty program's overall popularity (McCall and Voorhees, 2010). In particular, the expected reward from a loyalty program depends on several factors, including cash value, aspiration value, number of redemption options, and scheme's ease of use (O'Brien and Jones, 1995). In practice, frequent flyer and frequent guest programs often provide multiple options for redeeming awards. In addition to award tickets or rooms, customers may choose non-flight/hotel rewards, such as different types of merchandise, experiences, vouchers, and donations (Hofer, 2008). A broader scope for reward redemption increases the likelihood of a "fit" between the loyalty program and customers' needs (McCall and Voorhees, 2010), thus creating greater value for its members. Therefore, we propose the following hypothesis:

Hypothesis 2: A loyalty program's popularity is positively related to the number of redemption options.

On the negative side, too much effort or cost in redeeming awards reduces the consumer's net utility (O'Brien and Jones, 1995), thus decreasing a loyalty program's popularity. We define the "reward redemption requirement" as the minimum effort that customers must exert in the form of miles or points to redeem a particular reward. In the airline and hotel industries, consumers are generally required to accumulate a certain number of miles or hotel points to redeem an award. Consumers' chances of redeeming the reward is negatively related with the redemption requirement (Hofer, 2008). Numerous existing studies have found that the act of redemption is important in developing customers' positive feelings towards loyalty programs and cultivating loyalty (Smith and Sparks, 2009). Thus, we propose the following hypothesis regarding the relationship between the reward redemption requirement and the program's popularity.

Hypothesis 3: A loyalty program's popularity is negatively related to the award redemption requirement.

One important characteristic of loyalty programs is the preferential treatment that their most valuable clients enjoy (McCall and Voorhees, 2010). Most frequent flyer and guest programs currently grant different tiers of “elite status” to consumers, depending on the number of miles that a consumer flies or the number of nights that a consumer stays in a hotel over a calendar year or 12 consecutive months. Each tier requires different qualification thresholds and entitles qualified members to an increasing amount of preferential treatment and privileges, such as first or business class check-in, airport lounge access, flight or room upgrades, complimentary breakfast or internet, expanded award availability, and exclusive contact numbers. In practice, higher elite tiers are usually associated with more benefits and privileges.

From the perspective of customers, preferential treatment is perceived as elitism, which concerns a customer's inclination towards a certain ideological reality to claim exclusivity or superiority (Thurlow and Jaworski, 2006). For loyalty program members, tiers provide a sense of social status, as members compare themselves to those with other tiers (Drèze and Nunes, 2009). A higher threshold to obtain each tier reduces the number of members in each tier, thus increasing the scarcity and exclusivity (Tanford, 2013), which can translate into superior feelings and increased satisfaction. We thus hypothesize that increasing the tier threshold increases a program's popularity.

Hypothesis 4: A loyalty program's popularity is positively related to the difficulty of reaching elite tiers.

2.3 Data Collection and Measurement

2.3.1 Process of Data Collection

To examine the factors that contribute to a loyalty program's popularity, we manually collected secondary data from multiple sources. The data sources included the official websites of the Freddie Awards, several third-party platform websites (such as Tripadvisor.com, Expedia.com, and Ctrip.com), the websites of all sample firms (airlines and hotels) in this study, and reports published by the International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO), and the Air Transport Action Group (ATAG). Approximately 6,000 pages of hardcopy documents and webpages were carefully studied to derive the required information, and we consolidated this information into one dataset.

All the firms included in this study are "major players" in emerging market economies, with at least a 10% share of the local market. Adopting the definition of emerging market from Arnold and Quelch (1998), this study considers the following countries as "emerging market economies": Argentina, Brazil, Brunei, Chile, China, Colombia, Egypt, Estonia, India, Indonesia, Jordan, Kuwait, Malaysia, Mauritius, Mexico, Morocco, Nigeria, Oman, Pakistan, Philippines, Poland, Qatar, Romania, Russia, Saudi Arabia, Slovenia, South Africa, Sri Lanka, Thailand, Turkey, the United Arab Emirates, Ukraine, and Vietnam. In total, 74 firms, including 53 airlines and 21 hotels, had complete data and were included in our study. Except for the information regarding the Freddie Awards, the data collected were as of the end of 2013.

2.3.2 Description of Variables and Measures

Dependent Variable

The dependent variable in this study is a loyalty program's popularity. One publically available measurement of a loyalty program's popularity is the Freddie Award, which is generally acknowledged as "the most prestigious award" for frequent flyer and frequent guest programs around the world. Award winners are determined using a mixed approach that considers the number of votes that a program receives and the average score (between 1 and 10) that all the voters assign. Therefore, a Freddie Award can be used as a good approximation of a loyalty program's popularity from the perspective of customers.

Each year, Freddie Awards are granted to high-achieving programs in three regions: (1) the Americas, (2) Europe and Africa and (3) the Middle East and Asia. Therefore, we measure a loyalty program's popularity by counting the number of Freddie Awards that each sample loyalty program received from 2011 to 2015, i.e., we consider a ± 2 -year window around 2013 to collect data regarding a program's popularity. This approach is often used in the social sciences to soften the impact of short-term shocks and to achieve reliable results (Treiman, 2009).

In addition to award winners, the Freddie Awards also reveal the "score" that the award winners and runner-ups in each category receive. The higher a program's score, the better it performs from the customer's perspective. Therefore, instead of using count data (the number of awards received), an alternative measurement of a loyalty program's popularity is its score. Unfortunately, the Freddie Awards only publish the scores for award-winning and runner-up firms. As a result, this alternative measurement approach is not feasible for a significant number of sample firms in our dataset. In the *post hoc* analysis, we adopt this approach and

choose the firms for which a Freddie Award score is available. We then apply an ordinary least square (OLS) model to test the robustness of our results. The detailed results will be reported in Section 2.4.3.

Explanatory Variables

- *Number of Partners.* We count the number of partners that a frequent flyer or frequent guest program has according to the information published on its website. The data show that the number of partners is substantially higher for airlines that belong to an alliance, such as Star Alliance, Oneworld and SkyTeam, than those that are not affiliated with any alliance. For instance, Star Alliance has 27 member airlines, and the passengers flying with any alliance member airline accumulate miles through their frequent flyer programs. In addition, a growing number of frequent guest programs in the hotel industry have joint agreements with airlines, which allow guests to earn miles by staying at a particular hotel.
- *Number of Redemption Options.* We count the number of options available for frequent flyer and frequent guest members to redeem their accumulated miles or points, respectively. These options typically include free flights, free nights, flight or room upgrades, overweight payments, car rentals, shopping, the use of airport lounges, mile or point transfers among members, and donations.
- *Award Redemption Requirement.* Developing a common measurement for both airline and hotel industries is crucial for the analysis in this study. However, this task is quite demanding because of the unique characteristics of the loyalty programs in each industry. To the best of our knowledge, most of the measurements used in existing empirical studies are industry-specific; therefore, they are not necessarily robust

across multiple industries. In what follows, we will explain in detail our process of constructing the measurement for the award redemption requirement.

In the airline industry, depending on whether the reward flight is short or long haul, economy class or business class, the minimum miles required to redeem an award ticket vary dramatically. Therefore, to accurately measure the award redemption requirement in the airline industry, we classified the minimum mileage requirements into four cases: economy-class short haul, economy-class long haul, business-class short haul, and business-class long haul. The first two cases (economy-class short haul and economy-class long haul) correspond to the requirement to redeem the entry-level awards provided by the loyalty programs, while another two cases (business-class short haul and business-class long haul) measure the requirement to redeem top-level awards.

Because the range of short haul and long haul also varies dramatically among different airlines, we unified the distance standard, namely, short haul—flights of approximately 500 miles or domestic flights in some cases—and long haul—flights of approximately 5000 miles. We collected data regarding the number of miles (in units of 1000 miles) needed to redeem a round trip for short haul and long haul as well as economy and business classes. We then averaged the mileage required for long-haul and short-haul flights and determined the award redemption requirement for both economy class and business class tickets.

For hotels, redemption rates, i.e., the minimal points required to redeem a free night, are normally classified into different cases depending on the room's level of luxury. For each of the frequent guest programs in this study, we collected data regarding the lowest and highest redemption rates available according to the programs' websites. However, the meaning of "point" could vary dramatically across the hotel industry. To create a unified measurement of

the redemption requirement for the hotel industry, we did not directly use the redemption rates (the minimum point requirement) and instead converted “points” into monetary terms. This approach is feasible in the hotel industry because hotel points are usually awarded according to the number of dollars that customers spend by a certain ratio. In doing so, we could transform the required points into the required monetary expenditure that customers must spend to accumulate these points. We then measured each frequent guest program’s award redemption requirement by calculating the US\$ (in units of US\$100) required to redeem a free night for both standard rooms and luxury rooms such as suites.

In frequent flyer programs, the mileage accrual ratio can vary from 200% or 300% of the actual miles flown by business class or first class passengers to only 50% or 25% of the actual miles flown by economy class passengers. In this study, we calculated the average accrual ratio for each sample loyalty program and normalized the award redemption requirement by dividing it by the average accrual ratio. The normalized award redemption ratio decreases as the accrual ratio increases.

The measurements that we created have different units of analysis for the airline and hotel industries: 1,000 miles for airlines and US\$100 for hotels. To unify the unit of analysis across these two industries, we picked the highest redemption requirement in each industry (airline and hotel) and transformed each loyalty program’s redemption requirement into a percentage of the highest redemption requirement in its industry. In doing so, a similar unit of analysis with which to measure the redemption requirement could be applied to the airline and hotel industries. In sum, the measurement of the award redemption requirement can be written as follows:

$$r_j^i = \frac{(r_{short,j}^i + r_{long,j}^i)/2}{\text{accrual ratio}_{short,j}^i + \text{accrual ratio}_{long,j}^i} / r_j^* \times 100 =$$

$$\frac{r_{short,j}^i + r_{long,j}^i}{\text{accrual ratio}_{short,j}^i + \text{accrual ratio}_{long,j}^i} / r_j^* \times 100 \quad (1)$$

where $i \in \{1,2,\dots,73,74\}$; $j \in \{airline, hotel\}$; and r_j^* denotes the highest redemption requirement in industry j .

- *Entry-level and Top-level Elite Tier Thresholds.* In practice, most frequent flyer and frequent guest programs have multiple tiers of elite status (Tanford, 2013). In this study, we focus on examining the thresholds for reaching the entry- and top-level tiers, which reflect the accessibility of elite status and the maximum effort needed to enjoy the full advantages of elite members, respectively. For frequent flyer programs, the threshold is normally based on the number of miles flown; therefore, we used the miles needed (in 1,000-mile units) in a year to reach the entry- and top-level tiers. In addition, for frequent guest programs, we used the number of nights needed in a year to reach these tiers. To unify the unit of analysis, we normalized the threshold values, dividing them by the highest threshold in their respective industries. The measurements for the entry-level and top-level tier thresholds can thus be written as follows:

$$t_j^{i-entry} = t^{i-entry} / t_j^{entry*} \times 100 \quad (2)$$

$$t_j^{i-top} = t^{i-top} / t_j^{top*} \times 100 \quad (3)$$

where $i \in \{1,2,\dots,73,74\}$, $j \in \{airline, hotel\}$ and t_j^{entry*} and t_j^{top*} respectively denotes the highest threshold for entry-tier and top-tier elite status in industry j .

Control Variables

First, we consider the potential “halo effect” that an observer’s overall impression of a person, company, brand, or product has on the observer’s feelings and thoughts about that entity’s character or properties (Kim et al., 2009). In the hospitality sector, loyalty program members may be more likely to feel more positive about a firm’s loyalty program if they perceive the entire company positively, which does not necessarily relate to the offerings in the loyalty program. To control the impact of the *company’s overall rating* due to the halo effect, we collected airline ratings from Skytrax, a UK-based consulting firm that specializes in airline and airport reviews and ratings. Each year, it independently publishes updated ratings for commercial airlines all over the world. For hotels, we checked the ratings from several third-party platforms, including Expedia.com, Tripadvisor.com and Ctrip.com, and calculated each hotel’s average rating. Following the same procedure as that were used to measure explanatory variables, we normalized the ratings for airlines and hotels in a range from 0 to 100.

Second, we used a dummy variable to control each sample firm’s *industry of operation*. In particular, a binary variable of 1 was assigned to an airline company, and 0 was assigned to a hotel.

Third, we control the potential *location* effect by assigning a dummy variable of 1 to those whose headquarters are located in a high-income country and 0 otherwise. We adopt the World Bank’s definition of a “high-income country”, i.e., a country with a gross national income per capita of more than US\$12,735 in 2013.

Table 2.1 summarizes the descriptive statistics of all the variables that we used in this study.

Table 2.1: Descriptive statistics of variables

Variables	Mean	S.D
# of Freddie Award	1.40	4.05
# of Partners	52.62	35.72
# of Redemption Options	4.99	2.28
Redemption requirement of entry-level awards*	50.56	16.34
Redemption requirement of top-level awards*	36.96	18.81
Threshold of reaching entry-level tier*	67.95	24.01
Threshold of reaching top-level tier*	30.80	27.25
Overall Rating	72.23	13.96

* It is measured as a percentage of the highest in the industry.

2.4 Methodology and Results

2.4.1 Model Selection

In this study, we follow an iterative process of selecting empirical models. As the dependent variable of this study, the number of Freddie Awards received from 2011 to 2015, is a discrete count variable, we first adopted the well-established Poisson model for regression (Model 1). We noticed that a key requirement of the Poisson process is that the conditional mean (i.e., the expected outcome if the predictors equal their mean values) should equal the conditional variance (i.e., the variance of the expected outcome) (Tang et al., 2012). Generally, when the dependent variable is over-dispersed, the conditional variance may exceed the conditional mean. To check this possibility, we tested for the goodness-of-fit of the Poisson model, and the test statistic was significant (Pearson goodness-of-fit = 414.43, p value = 0.00). Therefore, the assumption about the conditional mean equaling the conditional variance is violated, and the Poisson results may be problematic in this study.

We then adopted a negative binomial model (Model 2), which is often used to analyze count data and does not require that the conditional variance equal the conditional mean. The result

of the likelihood ratio test shows that the dispersion of the prediction parameter alpha is significantly greater than zero ($p=0.00$), indicating that the negative binomial model fits better with the data than the Poisson model.

A more detailed examination of the dependent variable data shows that most of the sample firms did not receive a Freddie Award from 2011 to 2015. Figure 2.1 plots the distribution of the number of awards, and we can clearly see that it is dominated by zeros. The distribution of zeros in the data may exceed the expected frequency of the Poisson and/or negative binomial models. In this case, zero-inflated Poisson (ZIP) and zero-inflated negative binomial (ZINB) models, which account for *structural* zeros, may be better options for empirical analysis (Tang et al., 2012). Specially, the ZIP (ZINB) model is based on a two-component mixture that consists of a Poisson (negative binomial) and a degenerate distribution of the constant 0. In this study, we ran regressions with both ZIP (Model 3) and ZINB (Model 4) models. Our Model 3 (Model 4) consists of two components: the logistic model component for Award (=0):

$$\text{logit}(\text{Pr}(\text{Award} = 0)) = \alpha_0 + \alpha_1 \text{Industry} \quad (4)$$

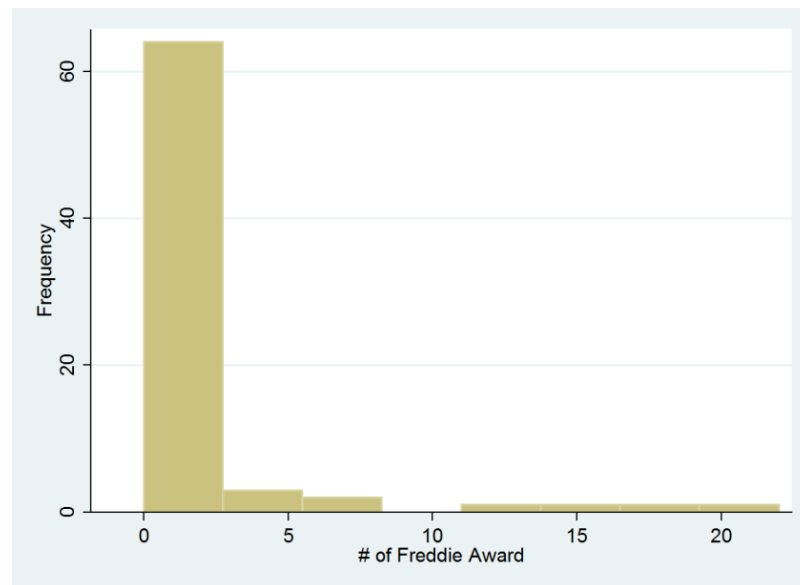
and the Poisson (negative binomial) model component:

$$\begin{aligned} \log(E(\text{Award})) = & \beta_0 + \beta_1 \text{Number of Partners} + \\ & \beta_2 \text{Number of Redemption Options} + \beta_3 \text{RedemptionRequirement}_{top} + \\ & \beta_4 \text{RedemptionRequirement}_{entry} + \beta_5 \text{Threshold}_{top} + \beta_6 \text{Threshold}_{entry} + \\ & \beta_7 \text{OverallRanking} + \beta_8 \text{Location} + \varepsilon \quad (5) \end{aligned}$$

In Model 3, the error term ε is assumed to follow Poisson distribution while in Model 4, it follows negative binomial distribution. The results of the Vuong test show that the ZIP

(ZINB) model indeed fits significantly better with the data than a standard Poisson (negative binomial) model at $p = 0.034$ ($p = 0.00$).

Figure 2.1: The Distribution of the Number of Freddie Awards



In the following section, we will report the results derived from these four models and test our hypotheses with ZIP and ZINB models.

2.4.2 Main Results

Table 2.2 summarizes the main findings of this study. The results from both Model 3 (ZIP) and Model 4 (ZINB) show that the number of partners in a loyalty program exerts a significantly positive effect on the frequency of receiving Freddie Awards (coefficient = 0.018 and $p = 0.011$). Therefore, Hypothesis 1 is supported. In addition, the results show that the number of Freddie Awards received significantly increases with the number of redemption options in a loyalty program (coefficient = 0.18 and $p = 0.016$). Therefore, Hypothesis 2 is also supported.

Table 2.2: Regression results

	Model 1 (Poisson)		Model 2 (Negative Binomial)		Model 3 (ZIP)		Model 4 (ZINB)	
	Coeff.	S.E	Coeff.	S.E	Coeff.	S.E	Coeff.	S.E
# of Partners	0.008	0.006	0.025*	0.013	0.018**	0.007	0.018**	0.007
# of Redemption Option	0.512***	0.087	0.363**	0.158	0.181**	0.075	0.181**	0.075
Redemption requirement _entry	0.061***	0.011	0.049	0.034	0.068***	0.015	0.068***	0.015
Redemption requirement _top	-0.088***	0.015	-0.088**	0.041	-0.054***	0.015	-0.054***	0.015
Threshold entry	0.029***	0.008	0.024	0.021	0.036***	0.008	0.036***	0.008
Threshold_top	0.008	0.007	0.008	0.020	0.044***	0.009	0.044***	0.009
Overall Ranking	0.094	0.018	0.056	0.042	0.074***	0.022	0.074***	0.022
Headquarter Location	-0.711*	0.423	-0.315	1.020	-1.637***	0.586	-1.637***	0.586
Industry	-0.836	0.545	-0.572	1.311	1.514***	0.779	1.514***	0.779
Constant	-12.831***	1.950	-9.414**	4.406	-11.951***	2.452	-11.951***	2.452
N	73		73		73		73	
LogL	-88.71		-65.80		-57.49		-57.49	
Chi2	282.55		26.63		90.44		37.08	
p-value	0.000		0.002		0.000		0.000	

Dependent variable: the number of Freddie Award received.

*** p-value<0.01, **p-value<0.05, *p-value<0.1

The empirical models show mixed results regarding the relationship between a loyalty program's popularity and its award redemption requirements (Hypothesis 3). As we predicted, the loyalty program's popularity decreases as the requirement to redeem top-level awards increases (coefficient = -0.054 and $p < 0.01$). Surprisingly, the loyalty program's popularity *increases* as the requirement to redeem entry-level awards increases (coefficient = 0.068 and $p < 0.01$). Therefore, Hypothesis 3 is only supported for the redemption requirement for top-level awards, not for the redemption requirement for entry-level awards.

As for entry-level and top-level elite tier thresholds, our results show that both are positively correlated with the chance of winning a Freddie Award, with coefficient values of 0.036 ($p < 0.01$) and 0.043 ($p < 0.01$), respectively. These results imply that our Hypothesis 4 is supported.

2.4.3 Post Hoc Analysis

We conducted two additional tests as *post hoc* analysis to examine the robustness of our results. First, we used *z-score* as an alternative measurement of redemption requirement. We normalized each loyalty program's redemption requirement by calculating its *z-score* in its industry, i.e., $(x - \bar{x})/\sigma$. And it was found that the new results regarding explanatory variables (particularly the redemption requirement) remain consistent with the results based on the measurement we used, as shown in the following table. In this test we only used ZIP and ZINB models, as the Poisson model and the negative binomial model haven already been tested above as less appropriate.

Table 2.3: Results of *post-hoc* analysis 1

	Model 3 (ZIP)		Model 4 (ZINB)	
	Coeff.	S.E	Coeff.	S.E
# of Partners	0.001	0.006	0.043***	0.014
# of Redemption Option	0.340***	0.079	0.355*	0.141
Redemption requirement_entry	0.694***	0.201	1.459***	0.539
Redemption requirement_top	-1.046***	0.387	-1.958***	0.706
Threshold_entry	0.510***	0.168	0.485***	0.319
Threshold_top	0.144*	0.130	0.004***	0.114
Overall Ranking	0.057***	0.021	0.059*	0.039
Headquarter Location	-0.306	0.537	0.586	0.839
Industry	1.319*	0.752	16.92**	18.855
Constant	-5.435***	1.723	-9.188***	3.113
N	73		73	
LogL	-73.37		-61.67	
Chi2	58.67		28.72	
p-value	0.000		0.000	

Dependent variable: the number of Freddie Award received.

*** p-value<0.01, **p-value<0.05, *p-value<0.1

To further check the robustness of the results, we used the “score” that each loyalty program received from the Freddie Awards, instead of the number of awards received, to measure a

loyalty program's overall popularity. Different from the number of awards received, which is a count variable in our models, the "score" can take any value between 1 and 10. Consequently, an OLS model can be applied directly. Unfortunately, the Freddie Awards only publish the scores received by the winners and the runner-up firms. The scores received by other participating companies are not released publically. In our dataset, only 26 of the 74 firms have available score data. We apply the OLS model to these 26 firms with the score value as the dependent variable. The results are summarized in Table 2.4. As we can see, overall, the new OLS model does not fit the data because of the small sample size. In addition, we lost statistical significance for most explanatory variables, except for the number of partners and the redemption requirement for both entry-level and top-level awards. Interestingly, the signs of the coefficients in the OLS model remain consistent with those of models that use count data. This result provides at least some evidence showing that the findings of this study can be robust under different measures of dependent variables.

Table 2.4: Results of *post-hoc* analysis 2

Model 5 (OLS)	Coeff.	S.E
# of Partners	0.015**	0.007
# of Redemption Option	0.113	0.083
Redemption requirement _entry	0.022*	0.015
Redemption requirement _top	-0.021*	0.010
Threshold_entry	0.003	0.009
Threshold_top	0.009	0.008
Overall Ranking	0.024	0.017
Headquarter Location	0.645	0.491
Industry	0.106	0.575
Constant	7.083*	1.522
N	26	
R-squared	0.5113	
Adjusted R-squared	0.2364	
p-value	0.1337	

Dependent variable: the score each loyalty program received.

*** p-value<0.01, **p-value<0.05, *p-value<0.1

2.5 Conclusions and Implications

2.5.1 Summary of Findings

This study empirically examines the factors that may contribute to airlines and hotels' loyalty programs' popularity in the context of emerging market economies. Collecting and consolidating secondary data from multiple sources, we empirically show that a loyalty program's popularity increases as the number of partners, the number of redemption options, and the thresholds for reaching the entry-level and top-level elite tiers increase. In addition, we find that the award redemption requirement has the opposite effect on a loyalty program's popularity: the program's popularity *decreases* as the requirement to redeem top-level awards increases; however, it *increases* as the requirement to redeem entry-level awards increases.

2.5.2 Discussions and Implications

The results of this study have wide-ranging implications for both research and practice. This study adopts a different approach from previous studies and considers each loyalty program to be the unit of analysis and constitutes one of the few program-level studies in the loyalty program management literature.

Few studies have examined the factors contributing to a loyalty program's success in emerging market economies. Based on a set of updated data from the major airlines and hotels operating in emerging market economies, this study fills this academic void and provides a unique perspective and methodology in the assessment of loyalty programs. The results of the study also shed some light on the management of loyalty programs in developed market economies or other industries in the hospitality sector.

One unique finding in this study is that, in contrast to our hypothesis, a loyalty program's popularity increases with the requirement to redeem entry-level awards. This interesting yet counter-intuitive result must be carefully interpreted.

One plausible explanation of this result is related to the increased capacity available for redemption due to increased redemption requirement. From the perspective of revenue management, the allocation of a certain amount of capacity for award redemption on one hand helps utilize the potentially idle capacity and on the other hand carries the opportunity cost of losing sales from regular customers. The optimal amount of capacity allocated to redeemable seats/rooms depends on the economical trade-off between the cost of allocating "too much" (in this case, firms may lose profits, which we refer to as "overage cost") and the cost of allocating "too little" (in this case, firms do not fully utilize the capacity, which we refer to as "underage cost"). Increasing the redemption requirement has no impact on the underage cost but will reduce the overage cost, which is equal to the difference between the unit price of a regular seat/room and the monetary value of the redemption requirement. As a result, as the redemption requirement increases, over-allocation becomes less costly, and firms would thus allocate more capacity to redeemable seats/rooms. In the hospitality sector, the demand for entry-level awards, such as an economy-class flight or standard hotel room, is relatively high. Providing a greater amount of redeemable capacity available will be perceived positively by the customers. In contrast, the demand for top-level awards is relatively low. In the airline industry, for example, the number of business class passengers is usually less than 20% of the number of economy class passengers. In this case, providing a greater amount of redeemable capacity available will not necessarily be appreciated by the customers. Instead, lowering the redemption requirement for top-level awards makes it more accessible, which in turn increases a loyalty program's popularity. Unfortunately, lacking of publically accessible data regarding firms' redeemable capacity, we are unable to examine

firms' micro capacity allocation decision in details. This also constitutes our agenda for future research as new data become available.

Another plausible explanation concerns the mechanism of signaling. The extant literature in marketing has shown that customers would perceive a higher price as a positive signal of product quality, both rationally (Milgrom and Roberts, 1986) and psychologically (Mastrobuoni et. al., 2014). In the hospitality sector, the service quality of top-level awards, such as business class tickets, is quite standardized across different service providers (Capizzi and Ferguson, 2005). Consequently, the need to use price as a signal of quality is reduced. In contrast, the quality of entry-level awards could differ significantly in terms of meals, legroom, etc. As a result, most customers only obtain imperfect information regarding the award quality through their own experience. In this case, since redemption requirement can be translated into monetary expenditure, a higher redemption requirement implies a higher level of quality, which will in turn be perceived positively by the customers. In practice, one factor that may challenge the validity of this argument is the existence of "guru" or extremely experienced customers, who have almost perfect information regarding the quality of the awards. For these customers, an award offering with a higher price does not necessarily imply better service quality. In a related study, Li et. al. (2014) empirically estimated that in airline industry, the percentage of strategic customers, who are able to anticipate the price drop and delay purchase, does not really account for a significant portion of the entire market, falling from 5.2% to 19.2%. As the customer's ability of foreseeing the price trend is strongly correlated with his or her past purchase experience, the existing finding seems to imply that signaling mechanism remains to be effective for most customers in the market.

A third plausible explanation concerns the role of a loyalty program as a strategic instrument of market segmentation. Loyalty programs attract customers who are loyal and intrinsically

connected to a brand, a product or a service (Kumar and Shah, 2004). Loyal customers tend to have a higher willingness to pay for the similar product/service and share their perceptions with others via word-of-mouth than non-loyal customers (Taylor and Neslin, 2005). For entry-level awards, when the redemption requirement is low, both loyal and non-loyal customers will be attracted to redeem, which will lead to an asymmetric consequence (Wangenheim and Bayón, 2007): the loyalty program will be perceived strongly negative by the loyal customers who do not get redeemable seats/rooms and neutral or marginally positive by the non-loyal customers who get redeemable seats/rooms. In this case, the loyal customers' negative perception could be quickly spread out via word-of-mouth and the loyalty program's overall popularity decreases. As the redemption requirement increases, the awards offered by the loyalty programs become less attractive to non-loyal customers and the loyal customers have a higher chance of getting redeemable seats/rooms. This helps create positive perception by loyal customers, which in turn increases the loyalty program's overall popularity. For top-level awards, as their redemption requirement is already three- to four-fold higher (e.g., business class tickets) than that of entry-level awards, non-loyal customers are automatically screened out. In this case, lowering the redemption requirement again makes the top-level awards more accessible and perceived more positively by the loyal customers.

For practitioners, this study provides clear guidance regarding the design of loyalty programs, and the findings of this study can be easily put into practice. In addition, our results show that a firm's overall ranking is positively related to the loyalty program's popularity. This finding provides strong evidence of the important role of the "halo effect" in the hospitality sector. As such, any improvement of a loyalty program's popularity should not be separated from a firm's overall marketing strategy and service offerings to consumers.

A country's macro-economic environment (e.g., GDP per capita) is not necessarily a barrier that prevents firms from offering effective and well-received loyalty programs, which is another encouraging finding for practitioners. For example, Jet Airways and Turkish Airlines, whose headquarters are in India and Turkey, won 5 and 2 Freddie Awards respectively, over the past five years. The success of the loyalty programs in non-high-income countries provides an excellent benchmark for practitioners in emerging market economies.

Chapter 4

The Impact of Online Review Channels on Electronic Word of Mouth: the Case of Chinese Luxury Hotels

Abstract: This study empirically examines hotels' electronic word of mouth (eWOM) from the two most important online channels for hotel reservations: online travel agency (OTA) and online meta-search website (OMS). Online ratings of more than 200 five-star hotels in Beijing and Shanghai from both types of channels are collected and analyzed to assess the ways in which the chosen channels influence a hotel's eWOM. Ctrip.com and MaoTuYing.com are respectively the Chinese OTA and OMS channels studied. Ctrip.com is an OTA whose revenue is generated according to the actual number of transactions, while MaoTuYing.com is an OMS whose revenue is based on the number of clicks on each linked website. We argue that an OTA has a stronger incentive to boost hotels' eWOM than an OMS due to their different revenue generation formulas. Our results show that, for the same hotel, the OTA channel gives a significantly better eWOM than the OMS channel does. In addition, our results highlight a positive interactive effect between the channel and the hotel's origins, i.e., hotels tend to get better eWOM from a channel with the same cultural origins.

Keywords: electronic word of mouth (eWOM), hospitality industry, China, business model

4.1 Introduction

With the emergence of new information technologies, consumers have increasingly started using new media channels to communicate their opinions and to exchange product information. The informal communications directed at consumers through Internet-based technology, particularly those related to the usage or characteristics of particular goods and services or to their sellers, are often referred to as electronic word of mouth (eWOM) (Litvina et al., 2008). In practice, eWOM communications that contain positive or negative statements can have a significant impact on consumers' perceptions and firms' profitability (Zhu and Zhang, 2010).

The hospitality industry, and hotels in particular, has witnessed increasing competition for high service quality and customer satisfaction (Parayani et al., 2010). Hoteliers therefore need to understand with as much detailed as possible what their guests really want from the service experience (Crick and Spencer, 2011). In the hospitality industry, eWOM is becoming increasingly important for a firm's success. For example, in the dining sector, many consumers now consult not only friends and relatives but also online guides and social media sites when they seek appraisals of a particular restaurant (Pantelidis, 2010). In the online travel sector, Gretzel and Yoo (2008) found that travelers commonly use online reviews to make accommodation decisions, although they are not used much for route planning decisions. As a result, many firms in the hospitality industry spend a significant amount of time and effort to achieve better eWOM (Litvina et al., 2008).

Unfortunately, many existing studies have shown that online reviews tend to be quite noisy and can be easily manipulated by the firms being reviewed. With a text-analysis approach, Ott et al. (2012) found that deceptive opinion spam is a growing problem in online review

channels, with an approximate rate of 2% on sites such as Hotels.com and of 4% on TripAdvisor.com. Ott et al. (2012) attributed the variance in fraudulent rates to the different posting requirements of different review channels. In a related study, Mayzlin et al. (2014) compared the review comments on Expedia.com and TripAdvisor.com. They found that reviews are more likely to be manipulated by independent hotels or those with a small management company or a small owner. In a recent study, Luca (2016) explored potential review manipulation in the restaurant sector, i.e., certain types of restaurants can submit their own reviews to flatten their eWOM. The results of these existing studies have convincingly shown that online reviews can be biased and often contain fraudulent information because the firms being reviewed are incentivized to strategically manipulate reviews of their own firms and those of their competitors.

However, two critical questions remain unclear. First, biased review comments can contain both positive and negative information. For example, a firm can post positive comments about itself and negative ones about its competitors (Mayzlin et al., 2014), but its competitors can take exactly the same actions. As a result, how review comments that may both boost and damage a hotel's eWOM and influence the overall eWOM is unclear. Second, although a hotel's incentive to manipulate online reviews has been adequately addressed in the literature, no existing study has ever examined the incentive of review channels and their impact on the hotels' eWOM. Consequently, firms still lack managerial guidance in choosing the "right" review channel for their eWOM.

To answer these two research questions, we manually collected data from more than 200 luxury hotels in China and compared their review ratings on two review channels: Ctrip.com and MaoTuYing.com. Both channels are influential websites in the Chinese hotel market, but they have quite distinct business models. Ctrip.com is an online travel agency (OTA) and

uses a pay-per-transaction business model through which the revenue is accrued according to the actual number of hotel reservations directly taken place at the website. By contrast, MaoTuYing.com is an online meta-search (OMS) website that does not directly involve in the transactions but plays the role of intermediary between OTAs or service providers and end consumers. Similar to its parent company (e.g., TripAdvisor), MaoTuYing.com is featured with a pay-per-click business model through which revenue is generated according the number of “clicks” directed from its website to those of OTAs or service providers.

We find that, for the same hotel, the review rating received via the OTA channel is significantly higher than that received via the OMS channel. In addition, the hotels with origins in the West or in Hong Kong/Macau/Taiwan/Singapore (HMTS) have significantly higher review ratings than local hotels. Additionally, our results support a significant interaction effect between the review channel and hotel origins: a hotel receives higher ratings through review channels with similar origins to those of the hotel’s parent company. Although the review ratings of all the hotels on MaoTuYing.com drop compared with those on Ctrip.com, the review ratings of Western hotels drop to a far lesser degree than those of local hotels.

The rest of the paper is organized as follows. Section 4.2 presents the current situation of the tourism and hotel industry in China. Section 4.3 is focused on the use of information technology in the hospitality industry. Section 4.4 discusses WOM and eWOM in the hospitality industry. Section 4.5 gives a detailed explanation on the OTA and OMS channels, the two business models of the online travel industry. Section 4.6 proposes the hypotheses. Section 4.7 presents the data and methodology. Section 4.8 concludes the results, and Section 4.9 provides the discussion and implications.

4.2 Tourism and Hotel Industry in China

Boosted by rising disposable income, improved travel facilities, and an appreciating currency, the tourism industry in China has witnessed fast expansion and consolidated growth. In 2014, the country received 55.6 million international tourists, ranking fourth in the world after Spain, United States and France, which generated 56.9 billion USD income, ranking it third in the world after Spain and United States (UNWTO, 2015). As the World Travel and Tourism Council (WTTC, 2013) predicted, China would become the number one tourism destination of the world in as soon as 2020.

Moreover, according to World Tourism Organization (UNWTO, 2015), China has been the fastest growing source market in recent years and the world's top spender in international tourism since 2012. In 2014, Chinese travelers spent a total of US\$ 165 billion abroad – a remarkable 27% increase over 2013 and US\$ 36 billion more in absolute terms. The gap in expenditure between the top spender China, and the second largest spender United States, widened to US\$ 54 billion. In 2014, China generated around 13% of global tourism receipts, benefitting destinations around the globe, especially countries in Asia Pacific.

The development of the hotel industry in China has been dramatic in the last two decades. According to China National Tourism Administration (CNTA, 2015a), the hotel industry of China has been growing rapidly from only 137 star-rated hotels in early 1980s to 12,776 in 2015, thanks to the opening-up policy of the government and the investment of both Chinese and Western hotel groups. China's hotel market will become the world's largest by 2025 or earlier (WTTC, 2013). As the most important emerging market, the Chinese market is being transformed from state ownership to more market orientation, and a growing number of hotel groups from advanced economies have relocated their businesses to China in order to take

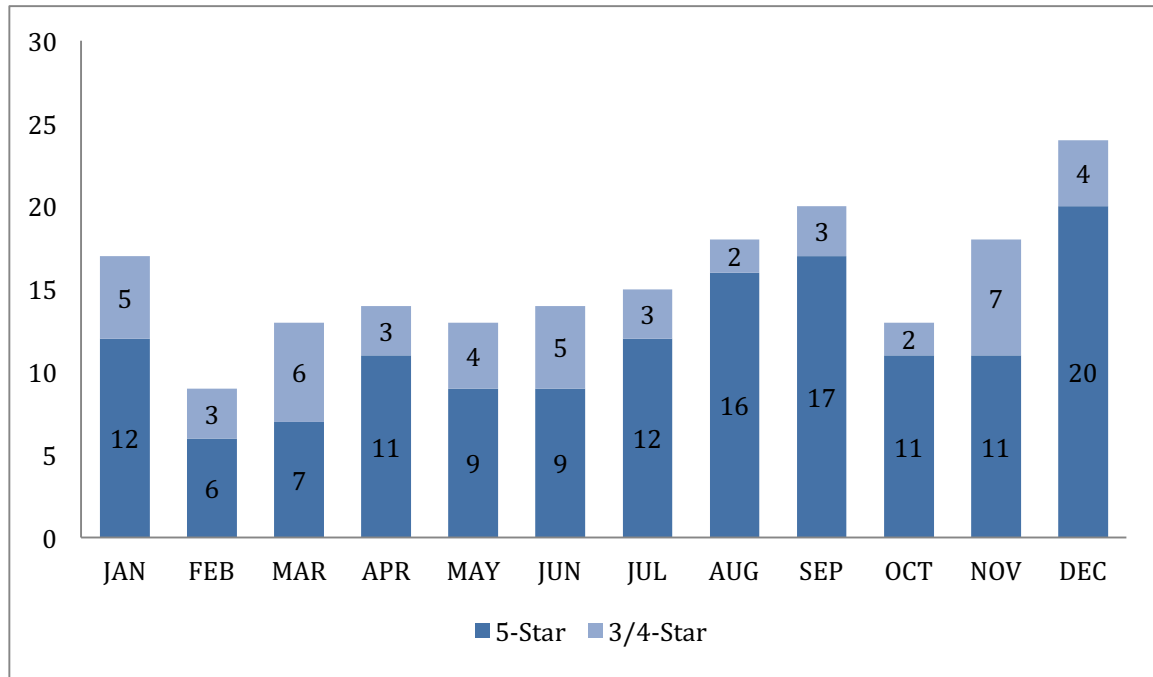
advantage of its endowments, lower labor costs and promising markets (Lenartowicz and Johnson, 2007).

Xu and Adler (2009) stated that the Chinese hotel industry has the fastest annual growth rate compared with other countries, and in particular, luxury and upscale hotels are growing faster than other types of hotels. Rapid growth has been witnessed in the sector of luxury hotels, from virtually zero five-star hotel in 1970s to 872 in 2015 (CNTA, 2015b). As shown in Table 4.1, five-star hotels, despite its small contribution in terms of absolute number (7%), account for 35% of revenue earnings among all star-rated hotels in China (CNTA, 2015a). This figure demonstrates the relevant role that luxury hotels play in the hospitality sector in China, and gives room for further academic research in this area. Figure 4.1 shows the monthly number of newly opened hotels in China during 2013 according to Meadin (2014), a Chinese website dedicated to research and statistics of the Chinese hotel industry. As can be seen, among categories of 3/4/5 star, the majority of the newly opened hotels are five-star hotels.

Table 4.1: Contribution of number and revenue of star-rated hotels in China (CNTA, 2015a)

	1-star	2-star	3-star	4-star	5-star
Number (%)	1%	22%	48%	22%	7%
Revenue (%)	0%	5%	27%	33%	35%

Figure 4.1: Monthly number of newly opened star-rated hotels in China (2013)



In addition, the hotel sector in China has been further boosted thanks to the 2008 Olympic Games in Beijing. In preparation for the Games, massive investment was injected to improve the tourism infrastructure capacity, which includes improvement of existing hotels and construction of new ones with special emphasis on luxury hotels. The Chinese capital managed to have 800 star-rated hotels with 130,000 guest rooms ready by the beginning of 2008 (Tian and Johnston, 2008). Infrastructure enhancement for the 2008 Olympic Games of Beijing positively affected the economic and tourist development of the host city. The Olympic Games were regarded as a great branding opportunity for the host city to project its identity to the rest of the world. The city, together with the country that it represents, gathered worldwide focus and enhanced global visibility (Kapareliotis et al., 2010).

The focus of this study is on luxury hotels located in Beijing and Shanghai, as hotels of these cities are the most representative ones and have the highest volume of customer online reviews available for our analyses. The two cities account for about 21% of luxury consumption in China, and will continue to remain and increase their importance, capturing

nearly 20% of the growth in the sector from 2010 to 2015 (McKinsey, 2011).

For international hotels operating in China, as holiday makers and business travelers are increasingly seeking unique services and experiences that can reflect their local culture and lifestyles, a growing number of international hotel groups have designed their business strategies adapted to the local needs and distinct tastes of local customers (Yu et al., 2013). This localized management approach would require international hotel groups to invest considerable amounts of resources to better understand their customers in terms of their specific local needs and preferences. Hence, achieving a balance between globalization and localization is a significant task for international hotel groups (Yu et al., 2013).

4.3 Use of Information Technology

Hospitality companies all over the world are going through rapid changes due to intensified competition, market globalization, and the evolution of new technologies. The hospitality sector is in the forefront of information technology adoption and e-business (E-Business Watch, 2006), as the use of new technologies and especially the Internet facilitates hospitality companies in reaching their customers, offering customized products and services, and competing effectively with their counterparts. Toh et al. (2011) suggested several approaches to make better use of the Internet in the hospitality sector, including optimizing the website to make it more user-friendly, creating offers based on customer data mining, and enriching the content and information not available through other channels.

The developments in information technology have radically changed the ways in which hospitality companies operate. Over the past decade, dramatic changes have been experienced in the hospitality industry. By nature, the hospitality industry is not technology

oriented, but the increasing needs from ever demanding customers, together with the information-intensive characteristic of the industry, are prompting managers to make use of information technology in order to meet current and future business needs and challenges (Piccoli, 2008). Law and Jogaratnam (2005) stated that information technology should be a critical component of any hospitality company that attaches importance on high quality service. The Internet as a platform for business, marketing, and customer interaction has forever changed the relationship among managers, customers, and third parties. These changes may have great impact on critical issues for hospitality companies such as revenue generation, pricing, customer relationship, inventory control, cost control, and financial returns. Hospitality companies should find ways to make the most effective use of available information technology (Lee et al., 2013).

Indeed, as stated by Ham et al. (2005), hospitality companies appreciate the potential of Internet in providing significant advantages in operational and strategic management, and are increasingly utilizing the Internet to support business operations and managerial decision making. The role of information technology has thus thoroughly shifted from a backstage supportive tool to an indispensable strategic tool. Hotels can build greater trust by intensifying their adoption of e-communications within their IT functions (Andreu et al., 2010).

According to Green and Lomano (2012), more than one third (35%) of hotel reservations in 2010 were made digitally (i.e., online bookings), up from 33% in 2009. This trend is expected to grow faster in the coming years, as travelers are increasingly using various websites to prepare their trips and share their experience (Tussyadiah and Fesenmaier, 2009). Due to the rapid growth in customers' use of search and social tools for travel planning and booking, hospitality companies need to be conversant in the different ways these tools can be

utilized and should know how to leverage the opportunities presented.

In line with the rapid growth and use of the Internet, hospitality scholars have conducted numerous studies on improving the utilization and effectiveness of information technology in the hospitality industry. According to Leung and Law (2005), hospitality practitioners can apply the findings from academic research to their businesses so as to enhance operational efficiency, reduce cost, and improve service quality and customer satisfaction.

It is important to note here that Internet using in China is experiencing a dramatic growth. The growing use of Internet has been remarkable in recent years, and in fact, China already has the greatest number of “netizens” in the world. By the end of 2015, the number of Internet users in China reached 688 million, up 39.51 million over the previous year. The Internet penetration rate reached 50.3%, up 2.4% from the end of 2014 (CNNIC, 2016). The increasing use of Internet has led to an enormous and ever-growing amount of consumer-generated online reviews on travel experiences. The percentage of consumers that check online travel reviews before making travel plans is increasing (Anderson, 2012). And travel-related online review websites were found to account for more than one quarter of social media websites on the internet (Xiang and Gretzel, 2010). Online customer reviews on issues related to tourism services have become an important information source for travelers in their travel planning and decision making.

Along with the increasing number of both hotel and Internet users, the way that people consult or purchase travel services or products is undergoing profound changes. While travel service providers have traditionally used intermediaries such as travel agents to facilitate the distribution process, the growing popularity of the Internet as an electronic medium has brought forth various forms of online travel distribution channels, which will be explained in

detail in Section 4.5.

4.4 Word of Mouth (WOM) and Electronic Word of Mouth (eWOM)

The focus of this study is customers' online evaluation of luxury hotels in China. It is known that there are different ways to hear the voice of the customers (Bradley, 2007), which consist of both qualitative and quantitative approaches, such as individual interviews, contextual inquiries, and focus groups. In this study, we are centered on the word of mouth (WOM) of the customers in its electronic form: eWOM.

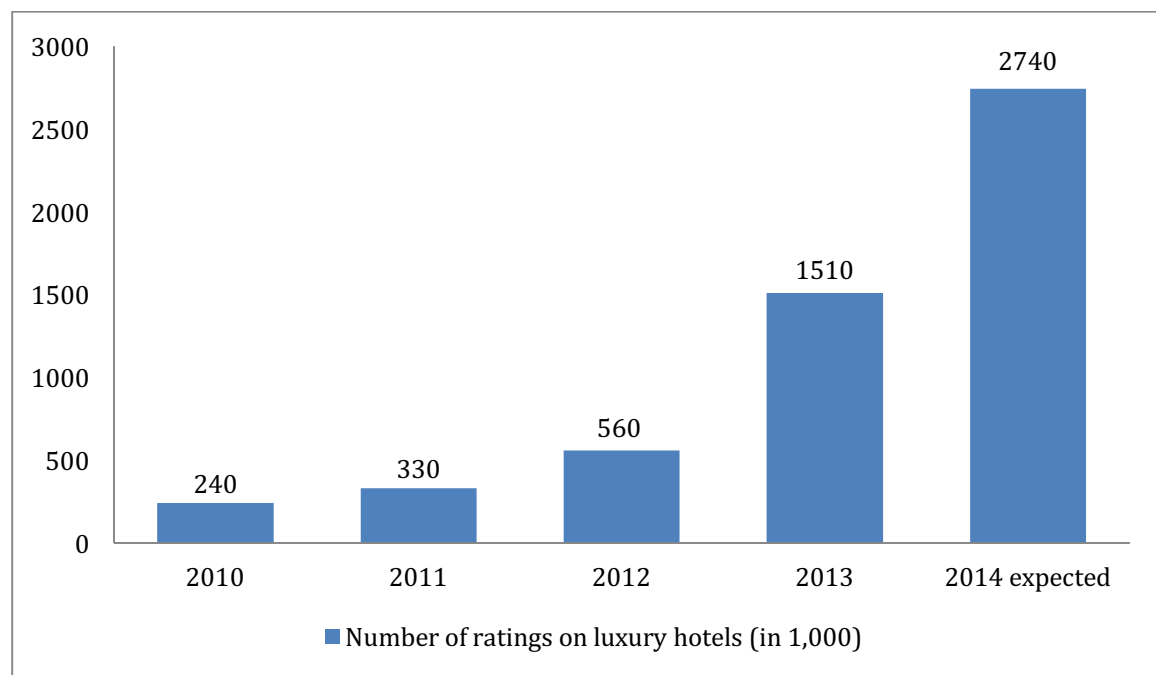
Word of mouth (WOM) refers to the interpersonal communications among customers concerning their personal experiences and evaluations of a product, a service, or a brand (Richins, 1983). Electronic word-of-mouth (eWOM) refers to those same interpersonal communications but taken place via an electronic platform, such as the Internet (Litvina et al., 2008).

WOM can have a powerful influence on customers' purchase behavior especially for experience goods such as products and services of the hospitality industry. An experience good is a product or service where its main characteristics such as quality are difficult to observe before consumption (Pine and Gilmore, 1998). Consumers are therefore inclined to rely on WOM to reduce their perceived uncertainty on the experience goods they are interested.

The influence of WOM, and of eWOM in particular, can be directly applied to the hospitality industry, as online user-generated content has become an increasingly important source of information for travelers (Jacobsen and Munar, 2012). User-generated content not only

captures online reviews and recommendations shared by consumers but also forms the bases on which consumers rethink their purchase decisions and possibly change their purchase behavior (Serra Cantallops and Salvi, 2014). Travel reviews are the most frequently used form of user-generated content in travel-related areas (Yoo and Gretzel, 2012). And trust in travel-related user-generated content is important as it directly influences consumers' intentions to take such contents into consideration for their travel planning (Sparks and Browning, 2011). As a result, there is a growing number of recent studies in this aspect. For instance, in a study of Meadin (2014), online user-generated reviews on five-star hotels in China collected from 18 major OTA's were registered, and a dramatic growth in the number of ratings has been found as shown in Figure 4.2.

Figure 4.2: Number of customer ratings (in thousand) on luxury hotels (2014)



WOM sharing can work as a useful mechanism to shift power from companies to consumers, particularly when criticism is expressed by multiple consumers simultaneously. The effects of eWOM on customers' perceptions and decision-making on service provider suggest that

customers are no longer passive receivers of value created by hotels but are active participants in co-creating value, and are gaining growing attention and importance among hotel managers. A study of Litvina et al. (2008) showed that the proliferation and widespread use of online hotel ratings and reviews implies an opportunity rather than a threat to hotel managers especially in the luxury hotel sector. It is necessary for hotel managers to closely monitor customers' eWOM and know their existing and potential customers' opinions towards their products or services so as to develop better understanding on customers' preferences and improve their service quality (O'Connor and Murphy, 2008).

Studies on eWOM abound in the literature, however, as shown in the table below, most of the existing studies are focused on developed countries or regions. Emerging markets such as China, where eWOM-related activities are growing faster than other parts of the world, have been given relatively little academic attention.

Table 4.2: Some existing literature related to eWOM

Authors and year	Region	Research Question	Methodology
Swanson and Hsu (2009)	USA	This study examines service failures and recovery strategies that would result in overall satisfying or unsatisfying experience.	Literature review and the critical incident technique in conjunction with a structured self-completion survey questionnaire.
Crotts et al. (2009)	USA	This study is focused on the measurement of guest satisfaction and delight through online reviews.	An application of a quantitative methodology known as stance-shift analysis is proposed and analyzed on data composed of Internet blog narratives.
Vermeulen and Seegers (2009)	Holland	This study applies consideration set theory to model the impact of online hotel reviews on consumer decision making.	An experimental study was conducted to assess the moderating influence of review valence, hotel familiarity, and reviewer expertise.
Xiang and Gretzel (2010)	USA	This study investigates the extent to which social media appear in search engine results among travel-related searches.	Data mining. The study used a research design that simulates a traveler's use of an online search engine for travel planning by using a set of pre-defined keywords.
Lee and Song (2010)	Korea	This study attempts to provide some insights on causal attribution process	Literature review, questionnaires and pilot tests, analyzed with t-tests.

		in the online complaining behaviors.	
Sparks and Browning (2011)	Australia	This study explores the role of several key factors related to online reviews that influence perceptions of trust and consumer choice.	Experimental design study. A sample was obtained from a market list company with a large national lifestyle online survey.
Kim et al. (2011)	USA	This study examines the motivating factors for consumers to seek eWOM.	Online questionnaire. A convenience sample was obtained from a large Las Vegas resort hotel.
Williams et al. (2012)	Australia	This study explores the relationship between customer-generated WOM and corporate reputation.	Literature review and a multiple-case study was conducted with a replicated design.
Mauri and Minazzi (2013)	Italy	This study examines the impact that hotel reviews on consumer-generated websites have on the consumer decision-making.	An experimental study was conducted with 349 young adults involved in an online survey.
Munar and Jacobsen (2014)	Europe	This study explores customers' motivations for social media contributions and their willingness to share information.	A quantitative approach was used to explore the research objectives, employing a self-completion questionnaire.

As mentioned before, with the increasing popularity of the Internet, eWOM has become an important tool for consumers seeking and sharing information on products and services (Zhou et al. 2014), and the influential nature of eWOM is considered one of the most crucial aspects to understand firm performance in the hospitality sector (Filieri, 2015; Serra Cantallops and Salvi, 2014).

Because of the growing importance of eWOM for service and product providers, empirical research has increasingly focused on its impact on consumer perceptions and decision-making processes (Liu and Park, 2015; Park and Nicolau, 2015). For example, Gretzel and Yoo (2008) found that, in tourism sector, more than 75% of travelers regard online consumer opinions as an important information source when planning their trips. In addition, the proportion of consumers that check online travel reviews before making travel plans is increasing every year (Anderson, 2012). Therefore, several authors claim that companies in the hospitality sector need to continuously fine-tune their products and services based on information received from customers (Zeng and Gerritsen, 2014).

Other studies have been devoted to examining how positive eWOM is related to a firm's performance and profitability. It has been found that the type of hotel influences the effect of online reviews on hotel companies' performance (Blal and Sturman, 2014). Focusing on the effect of online reviews for certain hotel attributes such as services, price, facilities, location, and cleanliness, Xie et al. (2014) found significant associations between those attributes and hotel performance. More specifically, they found that ratings of location and cleanliness positively affect hotel performance, while ratings of value for money negatively affect hotel performance. Ady and Quadri-Felitti (2015) in their study of the most important attributes for travelers when choosing a hotel used the following attributes: room, service, breakfast, food, amenities, wellness, Wi-Fi, cleanliness, and comfort. Albayrak and Caber (2015) used importance-performance analysis and considered hotel attributes such as room, personnel, food and beverages, and beach as core aspects to be treated.

Regarding firms' profitability, positive online comments have been found to provide hotels a higher level of market awareness (Vermeulen and Seegers, 2009), to enable them to charge a price premium (Yacouel and Fleischer, 2011), and to create higher reservation intentions (Mauri and Minazzi, 2013). Particularly in the Chinese travel industry, Ye et al. (2011) showed that positive customer reviews of a major travel agency have a significant impact on the number of online bookings of hotel rooms.

Another stream of literature focuses on examining the credibility of the information contained in eWOM. Online ratings have been found to generally be disproportionately positive. For instance, the distributions of product ratings on Amazon.com have been found to include far more extreme positive or negative than generally moderate reviews (Hu et al., 2009). The overrating phenomenon has also been observed in restaurant ratings on different websites (Aral, 2014). The existing studies attribute the extremely positive or negative

reviews to the manipulation behaviors of the firms being reviewed (Luca, 2016; Mayzlin et al., 2014; Ott et al., 2012). Comparing the review comments on Expedia.com and TripAdvisor.com, Mayzlin et al. (2014) found that hotels with neighbors are more likely to receive negative review comments than more isolated hotels. In addition, review manipulation is more likely to occur at independent hotels and those with small owners or a small management company.

Similar to Mayzlin et al. (2014), our study also compares online reviews via two channels: OTA vs. OMS. However, our study is different from Mayzlin et al. (2014) in three important ways. First, we compare the overall review ratings that a same hotel receives from different review channels, while Mayzlin et al. (2014) compare the frequency of negative review comments. Second, our study examines the manipulation behaviors of the review channels, while Mayzlin et al. (2014) investigate the strategic manipulation behaviors of the hotels being evaluated. Third, the results of Mayzlin et al. (2014) are based on the data collected from the U.S. hospitality industry, i.e., a developed economy context. By contrast, our data are manually collected from an emerging market economy context, which provides opportunities for new findings.

4.5 Two Business Models in the Online Travel Industry: OTA and OMS Channels

Basically, as mentioned previously, there are two types of websites where hotel reservations can be made and customers' reviews can be read: online travel agencies (OTA) and online meta-search sites (OMS).

OTA and OMS websites represent two prevalent and distinct business models in the online travel industry (Christodoulidou et al., 2010; Ott et al., 2012). OTA websites charge service

fees, which are typically a fraction of total transaction value. For example, in the airline industry, the commissions that OTAs charge typically range from approximately 5%–8% of the ticket price, with an overall cap of about \$50, and some airlines charge a fixed commission of approximately \$15 for each online booking (Clemons et al., 2002). In the hotel industry, the commission fees that OTAs charge hotels are typically approximately 10% of the transaction. Expedia, Booking and Priceline are among the more prominent OTAs. By contrast, OMS websites do not process booking transactions or provide the full range of services and destination content that OTAs typically do. Instead, they simply refer or link consumers (usually through a pay-per-click model) directly to the source (e.g., the travel supplier or OTA), offering the accommodations, brand preferences, and prices that meet the traveler's budget and needs (Christodoulidou et al., 2010). TripAdvisor, Kayak, and Trivago are prominent OMS websites.

A continuous growth is predicted for OMS websites, as they save consumers a number of steps in the search of the best deal (Oskam and Zandberg, 2016). Kayak processed 1 billion queries in its first four years of existence since 2004, but increased to 1.6 billion queries in 2013 alone, a number which is expected to be tripled by 2019. With 54% of Chinese travellers using OMS websites and a predicted compound growth rate for online travel revenue of 21% from 2013 to 2017, OMS websites such as Kayak and Skyscanner are entering and exploring this market at a rapid rate (Turner, 2014). Exponential growth of online transactions as well as the role of intermediaries will continue to characterize this market, where mobile OTA reservations, for instance, jumped from 1% in 2012 to 23% in 2013 (Turner, 2014). According to Phocuswright, 'With annual growth of 26-27%, online bookings will account for more than a quarter of all travel bookings by 2016, when China's online travel market will surpass Japan's to reach \$37.1 billion (Quinby, 2014). It seems plausible that Chinese travellers who will soon become used to this reservation environment

will employ the same reservation platform or a similar approach to book a hotel or a vacation package, when they travel abroad; whereas in the US market, for example, Chinese and Indian travellers may constitute the only source for actual growth of the market (Green and Lomano, 2012).

This study considers and compares two major players in the Chinese online travel market: Ctrip and MaoTuYing. Ctrip, as one of the earliest brands in China, is the largest player in the market, representing 23% of the market share in 2014 . Similar to other OTAs, Ctrip sets a high posting requirement, i.e., only customers who have booked and stayed at the focal hotel can post a comment and give review ratings after their stays. In addition to the bonus points that can be redeemed for free hotel rooms, Ctrip also provides additional monetary incentives, such as a 100-yuan voucher (\$15), to customers who post detailed online comments and review ratings.

MaoTuYing, formerly known as “Daodao”, is a subsidiary of TripAdvisor and is regarded as one of the most influential OMS websites in the Chinese market. Different from Ctrip, MaoTuYing sets a low posting requirement—anyone can post a comment and give a rating without having to make an actual reservation. Moreover, MaoTuYing does not offer additional monetary incentives to reviewers, except for some redeemable bonus points.

4.6 Hypotheses

As discussed above, OTA and OMS channels have distinct revenue generation formulas, which create different intrinsic preferences towards hotels’ positive eWOM. Customers can positively perceive a hotel’s high review rating as a signal of good service quality (Litvina et al., 2008), which, in turn, can translate into a greater flow of customers and greater revenue

for the service providers. Through OTA channels, the revenue generated by hotel room reservations is shared by the OTAs and the service providers (hotels). Under this revenue-sharing scheme, the incentives of the OTAs and service providers are perfectly aligned—greater revenue for the hotels also leads to greater revenue for the OTA channels. Numerous existing results have shown that service providers are indeed incentivized to manipulate their own eWOM by posting exaggerated positive comments (Luca, 2016; Mayzlin et al., 2014; Ott et al., 2012). As such, OTA channels may also be incentivized to manipulate the service providers' eWOM in a positive way.

In addition, in a highly competitive market place, each service provider is incentivized to hammer its competitors' eWOM by strategically posting negative comments (Mayzlin et al., 2014). In this regard, the incentive of OTA channels is not aligned with those of the service providers. Obviously, an OTA receives a fraction of the revenue that each hotel generates, and its total revenue is the sum of all these “fractions”. Damaging a service provider's eWOM will reduce its potential revenue, which will lead to less revenue for the OTA channels. As a result, unlike service providers, OTA channels are not incentivized to manipulate any service provider' eWOM in a negative way.

Different from OTA channels, OMS channels generate their revenues based on the number of clicks or referrals to the source (e.g., a travel supplier or OTA). In other words, the revenues of OMS channels do not depend on the revenue earned by the service providers. As such, OMS websites are not incentivized to manipulate eWOM by posting positive or negative ratings on any service provider, even though OMS channels may contain more “biased” (both positive and negative) review comments due to its low posting requirements.

Particularly in the Chinese online travel market, Ctrip and MaoTuYing take distinct steps to

attract online reviewers. Similar to its parent company (TripAdvisor), MaoTuYing only offers a small amount of redeemable bonus points to its reviewers. By contrast, Ctrip not only provides generous redeemable bonus points but also offers cash vouchers of up to 100 yuan (\$15) for each posted review. Ctrip's cash incentives for reviewers can be viewed as an implicit form of review manipulation because these incentives affect review ratings in two ways.

First, they reinforce the self-selection behavior of the reviewers with positive opinions. Customers with positive opinions have been found to be more willing to post their comments or ratings online than other customers (Hu et al., 2009). The overrepresentation of reviewers with positive opinions is regarded as one of the main factors that leads to the "rating bubble" on product review websites, such as Amazon.com (Aral, 2014). The redeemable bonus points and the cash vouchers attract more reviewers with positive opinions to post comments or ratings, which, in turn, leads to more overrating.

Second, such incentives improve the perceptions of reviewers with negative opinions with regard to the hotel. In the marketing literature, an observer's overall impression of a person, company, brand, or product has been found to influence his or her feelings and thoughts about that entity's characteristics or properties (Spielmann et al., 2012). This phenomenon has been referred to as the "halo effect". Similarly, in the hospitality sector, a reviewer's perception of a hotel booked on a particular website can also be influenced by his or her perception of that website. Generous bonus points and cash vouchers improve the overall perception of Ctrip. Consequently, reviewers who book hotels on Ctrip may have better perceptions than if they were offered no cash incentives. Summarizing the analysis above, we propose the following hypothesis:

Hypothesis 1: Hotels receive better eWOM on Ctrip than on MaoTuYing.

The marketing literature has shown that customers' choices of retail channels are driven by many factors, such as their personal characteristics, past purchase experiences and need for convenience (Green and Lomano, 2012). Consumers can obtain extra utility from "the sense of security" of shopping on the channel with which they are familiar or have had a good past experience (Balasubramanian et al., 2005). Consumers' preferences over different channels lead to the self-selection of consumers on each online channel. As the earliest and largest OTA in China, Ctrip mainly attracts the flow of Chinese domestic travelers. By contrast, as a subsidiary of TripAdvisor, MaoTuYing is well perceived as an international brand and mainly attracts foreign travelers or those with international experience.

Customers' perceptions of a service delivery (e.g., a hotel service) are influenced not only by the "true" quality of that service but also by the fit with the customer's specific needs and brand familiarity (Crick and Spencer, 2011). Compared with non-local hotels, Chinese local hotels have a better chance of providing the best quality-price package and additional services (for example, dining) that are particularly suitable for domestic travelers. In addition, local hotels also tend to enjoy greater brand familiarity than their non-local competitors for domestic travelers. By contrast, for foreign travelers and those with more international experience, non-local hotels are more likely to offer services that suit their needs and to enjoy higher brand familiarity. Considering the consumers' self-selection behaviors, we can hypothesize that a local hotel will receive additional positive perceptions on Ctrip, a channel with the same origins as those of the hotel, while a non-local hotel will receive additional positive perceptions on MaoTuYing. To operationalize this argument, we instead compare the "difference of the difference" and propose the following hypothesis:

Hypothesis 2: A positive interactive effect exists between the channel's and the hotel's origins.

4.7 Data and Methodology

In this study, we manually collect review ratings for 202 five-star hotels from two websites—Ctrip (OTA) and MaoTuYing (OMS)—ending in June 2015. Our study focuses on examining five-star luxury hotels for two reasons. First, compared with low-end and mid-range hotels, five-star hotels are more likely to receive non-local travelers. Therefore, five-star hotels are more suitable for and relevant to our theoretical arguments. Second, most luxury hotels in the Chinese market are owned by renowned hotel management companies or large owners. As such, compared with low-end and mid-range hotels, five-star hotels are implicitly much less likely to be involved in review manipulation (Mayzlin et al., 2014). Therefore, the review ratings of luxury hotels provide a less noisy research setting in which to discern the impact of the channels' review manipulation. Moreover, as mentioned by Zeithaml et al. (2006), star-rating can be considered as a form of explicit service promise which is one of the factors that influence service expectations. Customers tend to infer that hotels with higher star-rating will provide higher levels of hospitality services and products (Ariffin and Maghzi, 2012). In addition, as mentioned previously, luxury hotels make proportionally much higher economic contributions compared with other hotels (CNTA, 2015a), and thus deserve academic attention as a field for further research.

All the hotels in our dataset are located in Beijing and Shanghai. We chose these two cities because they are well recognized as the two most important regions in the Chinese market and receive the most visits and review comments from both local and non-local travelers. In particular, our data consist of 109 hotels in Beijing and 93 in Shanghai. To ensure the

reliability of our data, only hotels that appear in both Ctrip and MaoTuYing are included in our study. As a result, some of the newly opened hotels that have not appeared on both websites have been excluded from our data. In total, our data account for nearly 80% of the luxury hotels in these two cities and approximately one-third of China's five-star hotels.

For each hotel in our dataset, we collected information on its overall rating, the ratings for each service dimension, the number of reviewers on each website, and the geographic origins of its parent company. All online ratings are based on a scale of 1 to 5, with a score of 5 denoting the best service quality and 1 the worst. In terms of geographic origins, we broadly classify these hotels as local or non-local hotels. Among non-local hotels, we further differentiate Hong Kong/Macau/Taiwan/Singapore (HMTS) origin hotels from Western hotels. The former type of non-local hotels have different geographic origins from the local hotels but share the same language and cultural origins as the local hotels. Therefore, their eWOM may potentially present a distinct pattern from Western hotels. We will explore this possibility in our analysis.

To test our hypotheses, we conducted a three-step analysis. First, we conducted a paired t-test as the initial step to determine whether the same hotel receives significantly different review ratings across the two websites (Ctrip vs. MaoTuYing). Next, we conducted a weighted analysis of variance (ANOVA) by controlling the channel, each hotel's geographic origins and the interactive effect between the channel and the hotel's origins. The number of reviewers is used as the weight assigned to each hotel's rating. The weighted ANOVA approach helps us obtain more reliable statistical inference than the standard ANOVA. Finally, we conducted ordinary least squares (OLS) regression to quantify the exact effect of each factor.

4.8 Results

4.8.1 Main Results

We first ran a paired t-test to compare each hotel's ratings across the two channels. As shown in Table 4.3, hotels receive significantly higher review ratings on the OTA (Ctrip) than the OMS website (MaoTuYing). Define $\text{mean}(\text{diff}) = \text{mean}(\text{RatingC} - \text{RatingM})$. The null hypothesis that $\text{mean}(\text{diff}) > 0$ is supported at $p < 0.01$. This result provides preliminary evidence supporting Hypothesis 1. We further conducted Dunnett's test, which shows that, on average, the review rating that the same hotel received on MaoTuYing is 0.259 lower than that received on Ctrip ($p < 0.01$).

Table 4.3: Paired t-test (rating on Ctrip – rating on MaoTuYing)

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
RatingC	202	4.342	0.020	0.288	4.302	4.382
RatingM	202	4.082	0.017	0.237	4.049	4.115
diff	202	0.259***	0.016	0.231	0.227	0.291

*** Significant at the 1% level

We then ran a weighted ANOVA analysis, controlling channels, origins and the interactive effect between the review channel and each hotel's origins. The results summarized in Table 4.4 show that the review ratings of the same hotel are significantly different across the two channels ($p < 0.01$). In addition, the ratings of the hotels with distinct origins are also significantly different ($p < 0.01$). We also observe a significant interactive effect ($p < 0.05$).

Table 4.4: Weighted ANOVA on Overall Ratings: Channel * Origins

Variables	Rating	F-ANOVA
-----------	--------	---------

Channel	Ctrip	4.37 (0.02)	64.31(0.00)***
	MaoTuYing	4.13 (0.01)	
Origins	Local	4.11 (0.02)	30.58 (0.00)***
	Western	4.27 (0.02)	
	HMTS	4.38 (0.03)	
Channel * Origins	Ctrip* Local	4.31(0.03)	2.88 (0.046)**
	Ctrip*Western	4.40 (0.03)	
	Ctrip*HMTS	4.50 (0.06)	
	MaoTuYing*Local	4.00 (0.02)	
	MaoTuYing*Western	4.20 (0.02)	
	MaoTuYing*HMTS	4.32 (0.04)	

Robust standard errors appear in parentheses.

*** Significant at the 1% level, ** Significant at the 5% level

We then ran Tukey's test to compare the overall ratings in different situations. Our results show that, except for HMTS hotels, the ratings of the other two types of hotels (local and Western) are significantly higher on Ctrip than on MaoTuYing ($p < 0.01$). This finding also supports Hypothesis 1. Interestingly, on Ctrip, the ratings of local hotels are not significantly different from those of Western hotels ($p = 0.128$), and they show only a weak significant difference from those of HMTS hotels at the 10% level ($p = 0.067$). By contrast, on MaoTuYing, the ratings of local hotels are found to be significantly different from those of Western hotels ($p < 0.01$). This result implies that the difference between Ctrip and MaoTuYing review ratings of Western hotels is much less pronounced than the difference between those of local hotels.

As the last step of analysis, we ran an OLS regression, and Table 4.5 summarizes the results. The results again confirm a significantly negative direct effect of the review channel ($p < 0.01$) and hotel origins ($p < 0.01$) on the hotel's ratings, confirming that MaoTuYing offers lower reviews than Ctrip. In addition, we observe a significantly positive interactive effect

between Western hotels and MaoTuYing ($p < 0.01$), though no significant effect is found between HMTS hotels and MaoTuYing. Therefore, Hypotheses 1 and 2 are supported.

Table 4.5: OLS regression on overall ratings

	Review Rating
	Coef/(se)
Channel	
MaoTuYing	-0.303***
	(0.033)
Origins	
Western	0.093***
	(0.037)
HMTS	0.19***
	(0.067)
Origins * Channel	
Western * MaoTuYing	0.102***
	(0.046)
HMTS * MaoTuYing	0.124
	(0.079)
Constant	4.31***
	(0.025)
Adjusted R ²	0.312
Chi ² (p-value)	37.6 (0.00)

*** p-value < 0.01, **p-value < 0.05

4.8.2 Post Hoc Analysis

One plausible alternative explanation of our findings could be the different review behaviors of reviewers across Ctrip and MaoTuYing due to customers' self-selection. As MaoTuYing mainly attracts customers with international backgrounds, the reviewers on MaoTuYing may have more travel experience and tend to be “guru” travelers. As a result, compared with those on Ctrip, MaoTuYing reviewers may be more demanding and have higher expectations

regarding the service quality of the same hotel, which may lead to less positive perceptions of service quality.

To explore this possibility, we examine the review behaviors on both channels from two perspectives: the variance among the ratings for each service dimension (within a hotel) and the distance between the overall rating and the average rating of all service dimensions. Generally, a greater variance in the ratings of a hotel's service attributes implies a sharper discernibility in reviewers, and a smaller gap between the overall rating and the average rating of all service dimensions implies better coherence in the reviewing process. As such, if this alternative explanation is valid, we should expect to observe a greater within-hotel rating variance and smaller distance on MaoTuYing than on Ctrip.

The results concerning the behavior of reviewers on these two channels are summarized in Tables 4.6 and 4.7. Contrary to the predictions of the alternative explanation, the variance of within-hotel ratings on Ctrip is significantly greater than that on MaoTuYing (contrast: -.019). In addition, the gap between the overall and average ratings on Ctrip is significantly smaller than the gap between those on MaoTuYing (contrast: -0.006). These results concerning the micro-review behavior imply that Ctrip reviewers seem to present a sharper discernment of service attributes and better coherence than those on MaoTuYing. As a result, no empirical evidence supports the validity of the alternative explanation for this study.

Table 4.6: Paired t-test (within variance of Ctrip – within variance of MaoTuYing)

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
withinC	202	0.244	0.009	0.128	0.226	0.262
withinM	202	0.225	0.009	0.132	0.207	0.243
diff	202	0.019**	0.013	0.191	-0.008	0.045

Mean (diff) = mean (withinC – withinM) t = 1.397

** Significant at the 5% level

Table 4.7: Paired t-test (distance Ctrip – distance MaoTuYing)

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
withinC	202	0.026	0.001	0.019	0.023	0.028
withinM	202	0.032	0.002	0.028	0.028	0.036
diff	202	-0.006***	0.003	0.036	-0.011	-0.002

Mean (diff) = mean (distanceC – distanceM) $t = -2.572$

*** Significant at the 1% level

4.9 Conclusions and Implications

4.9.1 Summary of Findings

This study empirically examines the two main types of online travel channels (OTA and OMS) in terms of their function as eWOM providers using the case of five-star hotels in China. We have found that, for the same hotels, customer eWOM on Ctrip (OTA) is significantly higher than eWOM on MaoTuYing (OMS). This finding is of particular relevance, as it gives rise to the discussion of possible eWOM manipulation from the point of view of online travel channels, an issue little studied either in mature markets or emerging markets. Another important finding of this study is the positive interaction between the channel's origin and the hotel's origin, meaning that a hotel receives higher ratings on review channels that have similar origins to those of the hotel's parent company.

4.9.2 Discussions and Implications

The findings of this study may have broad implications for both research and practice. From the research perspective, existing studies have extensively examined the manipulation of the

eWOM by the firms being reviewed (Luca, 2016; Mayzlin et al., 2014; Ott et al., 2012). Unfortunately, how the reviews could be manipulated by the review channel itself remained unclear. Research in this area was especially scarce for China, one of the most important markets for tourism in the world. This study fills this academic void by empirically comparing the review ratings of two distinct business models: OTA and OMS channels in the Chinese luxury hotel market.

Our results show that different revenue generation formulas across these two channels create intrinsically different incentives towards review manipulation. The OTA model, with its revenue as a fraction of total transaction value, has a stronger incentive to flatten the review ratings of all hotels than does OMS model, whose revenue does not depend on actual bookings. In addition, our study finds that the self-selection behavior of reviewers leads to a positive interactive effect between the hotel's cultural origins and the review channel. A hotel will receive more positive eWOM on review channels with similar cultural origins.

For practitioners, creating positive eWOM is crucial for success. Different from existing studies that examine a firm's strategic manipulation of review comments on its services and those of its competitors, our study highlights a different direction for consideration: firms should also carefully choose the "right" review channels. Our study suggests that positive eWOM is more likely to be obtained on OTA channels and channels with similar cultural origins. It thus underlines the importance of congruence between a hotel's and a channel's cultural origins in eWOM management.

However, this study is not without limitations. First, the size of the sample is limited. A greater number of samples would enrich the study by extending the scope (to other emerging markets) and the scale (to hotels of other categories). As results of this study are based on

data of a single country, similar analyses using other countries' data would be needed in order to enhance the generalizability of the results. Moreover, since all data were collected at a same period, evolutions of the data were not able to be taken into account. This could be improved by using longitudinal data in the future, which would complement the study by observing the dynamics and evolutions of the results. This area for possible future research can be particularly relevant, as eWOM behavior is likely to change over the customer life cycle, and thus customer needs and preferences may not remain the same.

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